

Classification: IS Data Services – Specialist

Working Title: GIS Specialist

Location: Madison

POSITION SUMMARY:

The Division of Forestry (FR) GIS Specialist works primarily using applications to analyze geospatial / remotely sensed data, solve problems, maintain data and services, create solutions and facilitate decision making for the Division of Forestry. This position is part of a section of information system (IS) professionals each with a focused discipline. The FR GIS Specialist is an internal and external GIS technical and project consultant for staff, leadership, inter-divisional teams, and partner groups. This position requires comprehensive knowledge of complex desktop, on-line, and mobile emerging technologies including a full range of specialized forestry technical solutions to support FR business needs. This position maintains contemporary knowledge and expertise by staying abreast of current research and maintaining an effective professional network. The position analyzes new or emerging geospatial and remote sensing technologies and provides guidance to the division's management concerning specific information systems that support the forestry division's business needs. The position assures that FR GIS/IT applications meet division, department and enterprise standards. The customer base for this position is 450-500 division staff throughout the state, colleagues throughout the Department, key partner groups, corresponding programs in the US Forest Service, and other state and local units of government.

LOCATION, GEOGRAPHIC SCOPE & TRAVEL REQUIREMENTS: This position is located in Madison with responsibilities statewide. Frequent travel within the state and occasional national travel is required.

SCOPE OF AUTHORITY: This position works under the general supervision of the Geographic Systems Team Leader in the Technology Services Section within the Bureau of Forestry Business Services, and provides service to the entire division. This position leads the work of GIS data and analysis professionals within the Geographic Systems Team.

GOALS & ACTIVITIES:

35% A. Analysis

- A1. Independently analyze and investigate emerging desktop, on-line, mobile GIS and remote sensing technologies for incorporation into FR's information systems.
- A2. Work independently to gather information, analyze project needs, investigate parameters and develop proposals for employing emerging technology.
- A3. Provide technical review and complex analysis on a variety of external datasets for use on internal projects.
- A4. Work independently to perform complex data analyses such as multi-criteria weighted analysis, statistical analysis, and analysis on imagery/remote-sensed data.
- A5. Develop and manage geospatial data and map services; administering, loading, analyzing, and processing to support web mapping technologies.
- A6. Automate processes for efficient workflow and analysis using technologies such as Python and SQL.
- A7. Lead and participate in projects with other IS professionals to assess system and application specifications for custom development or purchase of GIS / remote sensing products.
- A8. Provide consultation to customers (internal and external) on the use of FR's GIS data.

30% B. Maintenance

- B1. Serve as data custodian/manager of FR's statewide GIS vector and raster datasets to be consistent with established standards and best practices by performing the following tasks: create/update, maintain, document, organize and distribute.
- B2. Design detailed static and dynamic map products for use by forestry staff, partners and the public.
- B3. Maintain map services and data used by complex custom forestry applications.
- B4. Work with the DNR Bureau of Technology Services to ensure Forestry GIS data is kept current and appropriately/responsibly accessible for use by internal staff and the general public.
- B5. Create detailed documentation of GIS processes and metadata for future use and increased transparency of analytical methods used in decision making.
- B6. Prepare and communicate status reports to Division leadership identifying IT changes (infrastructure changes, software upgrades, etc.) that will impact FR's IT/GIS applications to appropriate FR IT staff

20% B. Project Management

- B1. Independently manage forestry related GIS/IT projects to include drafting project timelines, developing project plans, tracking project development progress, status and budget, and ensuring appropriate communication.
- B2. Coordinate and manage the implementation of online/mobile web mapping applications (e.g. ArcGIS Online).
- B3. Provide direction and technical expertise in emerging GIS vector and raster technologies and the implementation of these technologies in complex information systems. Lead staff and contractors in the implementation of the preferred alternative.
- B4. In coordination with the DNR Bureau of Technology Services, work with other federal and state agencies (including the Wisconsin Board of Commissioners of Public Land, Farm Services Agency, US Forest Service, Wisconsin Department of Transportation, the Wisconsin Department of Administration, the State Cartographer's Office, Bureau of Indian Affairs and the University of Wisconsin) as well as local governments to assess and identify cost effective solutions to meet forestry-related business needs.
- B5. Represent the interests of FR in meetings and on appointed teams.

10% D. Support

- D1. Provide direction and technical expertise in the assessment and integration of emerging geo-spatial technologies.
- D2. Field questions about software/applications and data availability, particularly custom forestry applications and datasets.
- D3. Provide service to the forestry division statewide (including internal and external partners) to promote consistency of information system design, development, and implementation.
- D4. Work with FR's Geographic Systems Team Leader, GIS Project Manager and other IT staff to standardize the use of GIS technologies.
- D5. Assist the team leader in planning and leading the work of other GIS data and analysis professionals within the Geographic Systems Team in support of GIS related projects and requests.

5% E. Perform Other Duties

- E1. Review and keep abreast of changes in knowledge and practices of position-related activities in responsibilities.
- E2. Perform other position-related duties as assigned.
- E3. Follow all general and position-related safety requirements.

KNOWLEDGE, SKILLS AND ABILITIES:

Upon Appointment:

- 1. Knowledge and skills using GIS technologies including experience with geo-databases, mobile applications for field data collection, spatial analyst tools, spatial statistic operations, and other data management tools on a number of platforms including ArcGIS (Advanced), ArcGIS Pro, ArcGIS Server, and Spatial Database Engine (ArcSDE).
- 2. Knowledge and skills in the analysis, development and management of natural resource information systems including: data modeling, basic programming (python), querying (SQL), GIS, and the functionality of natural resource applications.
- 3. Knowledge and skills in automating analytical processes using technologies such as Python and SQL.
- 4. Knowledge and skills in information system analysis, investigating parameters, and developing prototypes for employing complex technology into natural resource management projects.
- 5. Knowledge and skills with database management, creation and maintenance including knowledge of Microsoft Access, Structured Query Language (SQL) and ArcSDE.
- 6. Knowledge and skills developing and managing multiple complex projects while maintaining deadlines.
- 7. Knowledge of cartographic concepts, and the ability to create static and dynamic maps for forestry staff and the general public.
- 8. Knowledge of aerial photography and remote sensing technologies including digital imaging, data visualization, imagery analysis, ground control and aerial photography use in natural resources.
- 9. Knowledge of customer service concepts and strategies with strong critical thinking and problem-solving skills.
- 10. Skills in the use of GIS in a natural resource management or related field.
- 11. Skills in short and long-range planning methods, team building and negotiating.
- 12. Ability to communicate technical information effectively both verbally and in writing, at times to a non-technical audience.
- 13. Ability to work independently to meet shared team goals while exercising sound judgment.
- 14. Ability to work on multiple tasks/projects at once while exhibiting good organizational skills.
- 15. Ability to work at detailed level and perform tasks with a high level of accuracy, while keeping an eye on the big picture.
- 16. Ability to facilitate decision making in a group context.
- 17. Ability to work on a complex application development team.
- 18. Ability to work in a fast-paced incident management environment.

Full Performance:

- 1. Knowledge of the Division of Forestry's program specifically related to GIS.
- 2. Knowledge of forestry interests within the state.
- 3. Familiarity with other DNR programs as they pertain to the work of the team and how it fits within the section.

4. Knowledge of state statutes, administrative rules, policies, and programs applicable to programs within the section.
5. Knowledge of DNR specific policies and procedures pertinent to the Division of Forestry.
6. Knowledge of DNR and enterprise-wide policies and procedures pertinent to Information Technology, specifically GIS service and data administration, and project development.
7. Knowledge and skill related to program management methods for a decentralized organization, including policy development, interpretation, implementation, monitoring and evaluation.
8. Knowledge of budget management procedures and practices, including allocation and monitoring of fiscal and other resources, to insure the operation of a major program.

PHYSICAL REQUIREMENTS & ENVIRONMENTAL FACTORS: Physical requirements include talking in front of groups, sitting for long periods of time, lifting and carrying 5 to 30 lb. Environmental factors include working indoors in an office setting and independently traveling to offices around the state.

EQUIPMENT USED: Computers, mobile phones, field data collection devices, projectors, printers, virtual meeting hardware, fax and copy machine.

PD Addendum of WI DNR Competencies

Service Excellence for Customers & Partners

- Make excellent customer/partner service a top priority and actively seek to improve it.
- Work to identify and understand the needs of others and strive to create the most value for them, focusing on their satisfaction.
- Responsive to changes in customer/partner goals, deliver on promises, follow-up appropriately thus service delivery is marked by fairness, integrity, high ethical standards and the utmost respect for others in order to generate trust as an outcome.
- Actively seeks to achieve results that best strike the balance with the Division's service role and regulatory authority with the customer/partner goals.

Effective & Fair Decision Making

- Analyze situations fully and accurately to reach productive, and where appropriate, uniform decisions. Consult appropriate parties/stakeholders as necessary and identify the key concerns and/or issues that need to be addressed in order to make the best decision possible.
- Discern the pertinent facts and develop clearly based objective criteria.
- Make timely, well-reasoned decisions by integrating information and perspectives appropriately.
- Evaluate the immediate and longer-term consequences of decisions.
- Use sound professional judgment in their analyses and decisions.

Effective Communication

- Express ideas in a clear, concise, and effective manner, both orally and in writing.
- Ability to present, facilitate and instruct as part of staff meetings and partner activities.
- Use correct grammar and sentence structure in communications.
- Strong listening skills, particularly when different viewpoints are expressed.
- Openly share information, transparent and keep all concerned parties informed.

Interpersonal Relationships & Partnership Building

- Build and effectively utilize relationships and influence networks to achieve goals.
- Share knowledge and build trust with colleagues, managers and external partners.
- Tactful when dealing with sensitive issues and personalities.
- Exercise social intelligence: have a high level of self-awareness, are aware of impact on others.
- Work through complex situations effectively, diplomatically and with sensitivity without losing credibility or trust.
- Recognize sensitive information and exercise discretion.
- Approach professional conflicts in a constructive manner. Refrain from personal attacks and excessive emotions.
- Demonstrate sound judgment under pressure and retain focus on desired business outcomes in difficult conditions.
- Proactive in addressing problems.
- Exemplify the commitment to the DNR's core value of respect- to work with people, to understand each other's views and to carry out the public will; maintain integrity and treat everyone with fairness, compassion, and dignity.

Demonstrates Leadership

- Establish vision, set direction and initiate strategy by analyzing forces and trends that impact the program. Anticipates future needs, challenges and identifies potential options and constraints; critically evaluates information to promote the most effective position.
- Identify the implications of decisions and actions on people, other parts of the organization, external partners and customers. Understand the abstract and think in terms of whole systems and complex interrelationships. Synthesize large, disparate bodies of information.
- Mobilize staff to face and tackle tough challenges. Facilitate staff through the change process by helping them to navigate loss and work through discomfort so that they can adapt to emerging conditions and see the potential within broader organizational strategies and priorities.
- Establish formal and informal relationships with others to provide feedback, information, support and resources to help them develop new or higher levels of skill and ability.
- Empower others to reach higher levels of performance through trust, delegation, participation and coaching.
- Provide direction, support and encouragement amongst their team colleagues and partners.
- Hold up high standards of excellence towards the accomplishment of desired outcomes and objectives.
- Inspire confidence and respect which is motivating for others, builds positivity; keep the team cohesive and partners confidently engaged.

POSITION-SPECIFIC INTERPERSONAL COMPETENCIES

Strategic Thinker / Systems Thinking

- Anticipate future needs and identify potential options and constraints; critically evaluating information to promote the most effective position.
- Think through the implications of decisions and actions on people, organizational components, partners and customers.

Builds Effective Networks / Organizational Agility

- Utilize networks and relationships across the organization to break down barriers between functions and/or work units to accomplish work and focus on customers more effectively.
- Maintain frequent contact with key players across the organization and within the program/region/unit; manages relationships by creating 'win-win' opportunities and seeks mutual benefit for all individuals involved.

Process Oriented

- Increase overall learning and performances by designing, implementing, and/or connecting critical work processes.
- Take steps to make sure that new ideas are integrated with established procedures and processes.
- Assure successful implementation by connecting processes and seeing that key staff is involved.

Fosters Information Sharing

- Build systems and discipline that democratizes information, removing control and privilege around information.
- Focus information on serving front-line managers where decisions can have an impact.

Organized and Focused

- Use well-reasoned judgment in effectively planning and setting of appropriate work priorities and managing over-all workload responsibilities.
- Prioritize tasks, set milestones, sequence activities, divide tasks among others as needed and set a reasonable pace.
- Sustain focus, persistence and tenacity in the face of any difficulties or resistance encountered.
- Coordinate realistic time frames and delivers products and services in a timely manner.